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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/578,143

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EXAMINER

STEVENS, GERALD D

ART UNIT

PAPER NUMBER

2817

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/578,143	<b>Applicant(s)</b> KAMEYA, MASAOKI	
	<b>Examiner</b> GERALD STEVENS	<b>Art Unit</b> 2817	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 09 October 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 & 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andrews Jr. et al in view of Lin et al (both of record).

Regarding claims 1 & 2, Andrews Jr., as depicted in figs. 1 & 2, teaches having a lumped parameter delay line (whole fig) comprising: Five spiral coils (20,22) that are placed in a series configuration and are formed on a support member (38) in an alternating top and bottom arrangement. The spiral coils (20,22) are formed in two different layouts with coils 20-2 & 22-8 being shaped as single spiraling sections (i.e. sections not divided) and coils 22-2 & 20-4, 22-4 & 20-6, & 22-6 & 20-8 being shaped as first spiraling sections (22-2,22-4,22-4) that flow into a second spiraling section (20-4,20-6,20-8, respectively, i.e. sections divided) with each of the paired spiral coils (20-2 & 22-2, 20-4 & 22-4, 20-6 & 22-6, 20-8 & 22-8) evolving from their common axes in opposite directions to provide a positive coefficient of coupling (M). The five spiral coils (20, 22) are further connected at each junction (26) to the first lead of a capacitor (24) that has the second lead connected to a conductive strap (34) to form four filter sections (2, 4, 6, 8), but Andrews Jr. fails to teach alternating the single spiral coils and the spiral coils with two sections in a vertical configuration and having multiple alternating sections.

Lin, as depicted in fig. 18, teaches having a low pass filter comprising: A group of spiral inductors (L1, L3, L5, L7) that are formed on a multilayered substrate (layers 3-6). The inductors L3 & L5 are formed as spiral inductors (142 & 144) that are composed of two adjacent and connected spiral inductors that are formed on two substrate layers (layers 3&4 & layers 5&6, respectively) and the spiral inductors L1 & L7 are formed as spiral inductors that are composed of a single spiral inductor that is formed on two substrate layers (layers 5, 6 & layers 3, 4 respectively). The lower, left-hand section of spiral inductor L5 located on substrate layer 5 of the multilayer substrate and the upper, right-hand section of spiral inductor L3 located on substrate layer L4 of the multilayer substrate makes a section of the low pass filter that is not divided in the horizontal direction. The upper section of spiral inductor L5 located on substrate layer 6 of the multilayer substrate and the lower section of the spiral inductor L3 located on substrate layer 3 form two inductors that are divided in the horizontal plane with the undivided section in between. This pattern of spiral inductors being arranged in an alternating fashion of spiral inductors (L3 & L5) that are divided in the horizontal plane and spiral inductors (L1 & L7) that are not divided in the horizontal plane is repeatable for any number of desirable filter stages (fig. 4 whole figure, col. 3 lines 22-28, wherein fig. 4 is a generic teaching of the specific filter shown in fig. 18, i.e. claim 2).

It would have been obvious to one having ordinary skill in the art at the time of the invention to have modified the lumped parameter delay line such as taught by Andrews Jr. with the multilayer substrate configuration such as taught by Lin because the multilayer substrate configuration such as taught by Lin provides the benefit of

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reducing the size of lump element inductors (col. 6-7 lines 67 & 1-3) such as in a lumped parameter delay line.

### ***Response to Arguments***

3. Applicant's arguments filed 10/09/2008 have been fully considered but they are not persuasive. Applicant argues that the combination of Andrews and Lin fails to teach the inductors of two sections being formed between the inductor not divided and the first and second inductors connected in series in a vertical positional relation so as to be connected with positive coupling. Also, applicant argues that the level of ordinary skill in the art has been incorrectly ascertained because one with ordinary skill would not have arrived at the present invention without instruction from the innovator and that the office action all but relies on applicant's disclosure for motivation to modify the references to arrive at the claimed invention with the office action citing nothing in the prior art that provides the specific motivation to modify the references to arrive at the invention as claimed. Contrary to applicant's assertion, the obviousness combination set forth above to reject claim 1, the above combination does indeed teach the inductors of two sections being formed between the inductor not divided and the first and second inductors connected in series in a vertical positional relation so as to be connected with positive coupling. This is possible because it would have been obvious to anyone having ordinary skill in the art to have recognized that each separate coil layer located within the filter structure of Lin (fig. 18) is an independent coil inductor that can therefore be labeled in any desirable fashion, which renders the labeling of inductors within the Lin reference an arbitrary process. For example, it would have been obvious to one having

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ordinary skill in the art to have realized that the coil of inductor L3 located on layer 4 is obviously capable of being independently labeled from the lower coil of inductor L3 located on layer 3 and that the coil of inductor L1 located on layer 5 is obviously capable of being dependently labeled as one inductor coil with the upper coil of inductor L3 located on layer 4. Therefore, it would have been obvious to one having ordinary skill in the art to have labeled each of the respective vertically neighboring coils located on layers 4 and 5 as one inductor coil, the respective coils of inductors L1 & L5 located on layer 6 as respective single coils, and the respective coils of inductors L3 & L7 as respective single coils. And, when modifying Andrews, which teaches positively coupling vertically neighboring coils as explained in the above rejection, with the configuration of Lin the resultant structure is that of the inductors of two sections being formed between the inductor not divided and the first and second inductors connected in series in a vertical positional relation so as to be connected with positive coupling. Furthermore, since one with ordinary skill in the art would have easily recognized the arbitrary labeling of inductors, an ordinary artisan would have easily recognized a modification as detailed above in the rejection of claim 1 is possible without any prompting from applicant/innovator. Finally, examiner does not rely on applicant's disclosure for motivation to modify the references to arrive at the claimed invention since Lin explicitly teaches that modifying a filtering circuit composed of t-section LC filters, such as taught by Andrews, provides the benefit of reducing the size of the lumped element inductors (e.g. please refer to col. 6 line 67 & col. 7 lines 1-3). Such an explicit teaching within the Lin reference renders any arguments of examiner relying on

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applicant's disclosure for motivation moot. And, an ordinary artisan would have combined the references (Andrews and Lin) based on a motivation of reduced lumped inductor size since such a modification would have also resulted in the well known benefit of reducing manufacturing costs by reducing substrate area consumed by the resultant structure. Accordingly, the combination of Andrews with Lin is indeed proper and the reasons to combine do indeed provide sufficient reasons to combine.

### ***Conclusion***

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GERALD STEVENS whose telephone number is (571)270-5076. The examiner can normally be reached on Mon-Fri 7:30am - 5:00pm EST alternate Fridays off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on 571-272-1769. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

**/BENNY LEE/  
PRIMARY EXAMINER  
ART UNIT 2817**

GDS